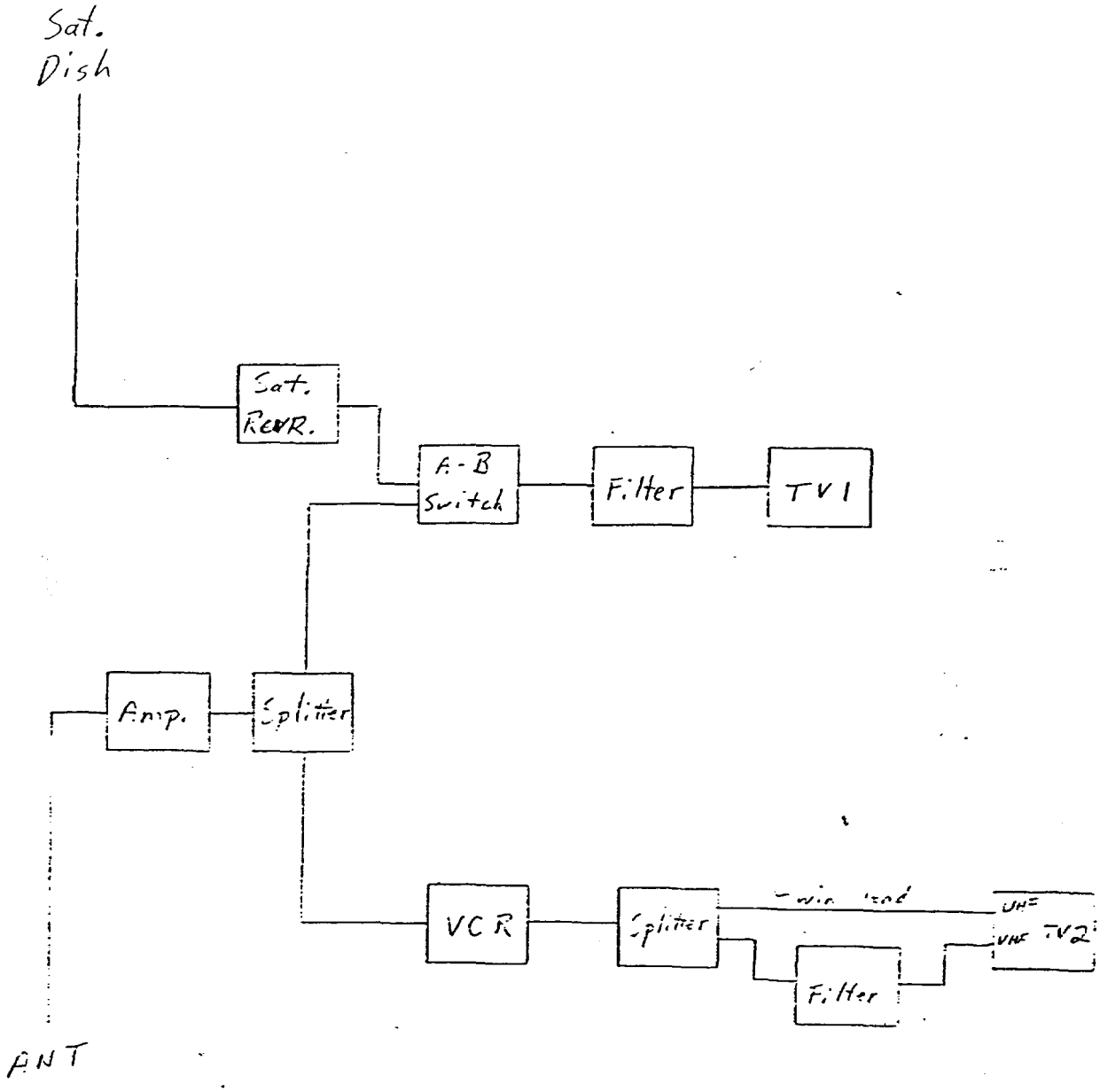

Sat.
Dish
Sat.
Rcvr.
A-B
Switch
Filter
TV 1
Amp.
Splitter
VCR
Splitter
twin lead
UHF
VHF TV2
Filter
ANT

(6)

INVESTIGATION REPORT

Date: 2/12/92 Time: 1:15pm Name: Mrs. Christian #122

Has KOKS been here? Y N Address: Rt.6 Box 142, Poplar Bluff, MO

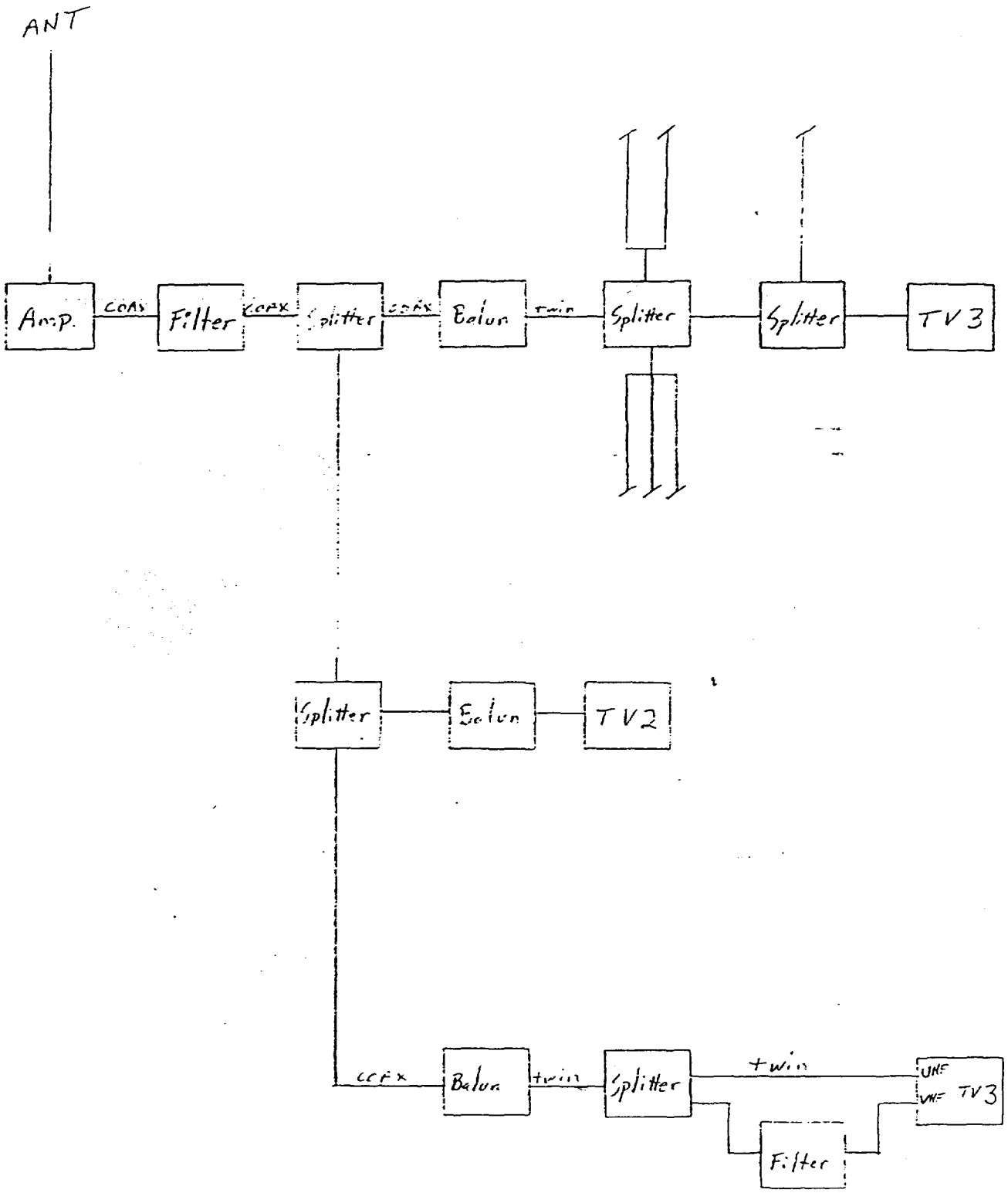
When were they here? Fall 91 Description of Services: Installed one notch filter on Mitsubishi TV only. They would not provide more than one filter.

		TV1	TV2	TV3	Radio 1	Radio 2
Make		Mitsubishi	Zenith	Zenith		
Model		CS1946R	SZ2577P	3F1964X		
Serial #		U1946183722	49116090076	3602328		
Date First Used		3 yrs old	9 yrs old	16 yrs		
Ant. Wire Type		coax	coax	twin/coax		
Ant. Type		directional	directional	directional		
Ant. Rotor		yes	yes	yes		
Ant. Bearing						
Filter Type		notch (2)	notch	notch		
Filter Manuf.		MW Filter & Channel Master				
Booster Type		Archer with FM Trap				
Pic/Rec Quality w - KOKS	Ch. 6	TASO 3	TASO 4	TASO 5		
	Ch. 8	3	3	4		
	Ch.12	2	2	3		
	Ch.15	2	2	5		
Pic/Rec Quality w/o -KOKS	Ch. 6	3	3	4		
	Ch. 8	3	2	4		
	Ch.12	2	2	3		
	Ch.15	2	2	4		

Notes: The Christian's have remodeled their residence and have run wiring to several outlets within the home. They are currently utilizing three TV sets, but have up to 9 outlets. They have installed a booster amplifier and a channel master notch filter to the antenna line, which is then split up for the nine outlets using both coax and twin lead. The measured field strength at this location is 151mv/m. This residence is located approx. one mile from the KOKS tower and is in the null of the KOKS antenna pattern.

***** SUMMARY *****

KOKS failed to restore quality of picture reception at time complaint was filed. Since then, the occupant has remodeled the residence adding several television outlets, a booster amplifier, a notch filter, and a rotor. Picture quality improved when KOKS stopped transmissions.


ANT
Amp.
coax
Filter
coax
Splitter
coax
Balun
twin
Splitter
Splitter
TV3
Splitter
Balun
TV2
coax
Balun
twin
Splitter
twin
UHF
VHF
TV3
Filter

9

INVESTIGATION REPORT

Date: 2/11/92 Time: 2:00pm Name: Mr. Willard Garrison #777

Has KOKS been here? Y N Address: Rt.6 Box 76, Poplar Bluff, MO

When were they here? Spr. 91 Description of Services: They tried one filter on the TV. When it did not work, they took filter off and left.

****

		TV1	TV2	TV3	Radio 1	Radio 2
Make		RCA				
Model		G26131TN				
Serial #		837616664				
Date First Used		3 yrs old				
Ant. Wire Type		twin lead				
Ant. Type		directional				
Ant. Rotor		none				
Ant. Bearing		60 deg.				
Filter Type		unknown				
Filter Manuf.		?				
Booster Type		none				
Pic/Rec Quality						
w - KOKS	Ch. 6	TASO 6				
	Ch. 8	6				
	Ch.12	3				
	Ch.15	3				
Pic/Rec Quality						
w/o -KOKS	Ch. 6	4				
	Ch. 8	6				
	Ch.12	3				
	Ch.15	3				

****

Notes: The field strength at this residence is 1,183mv/m.

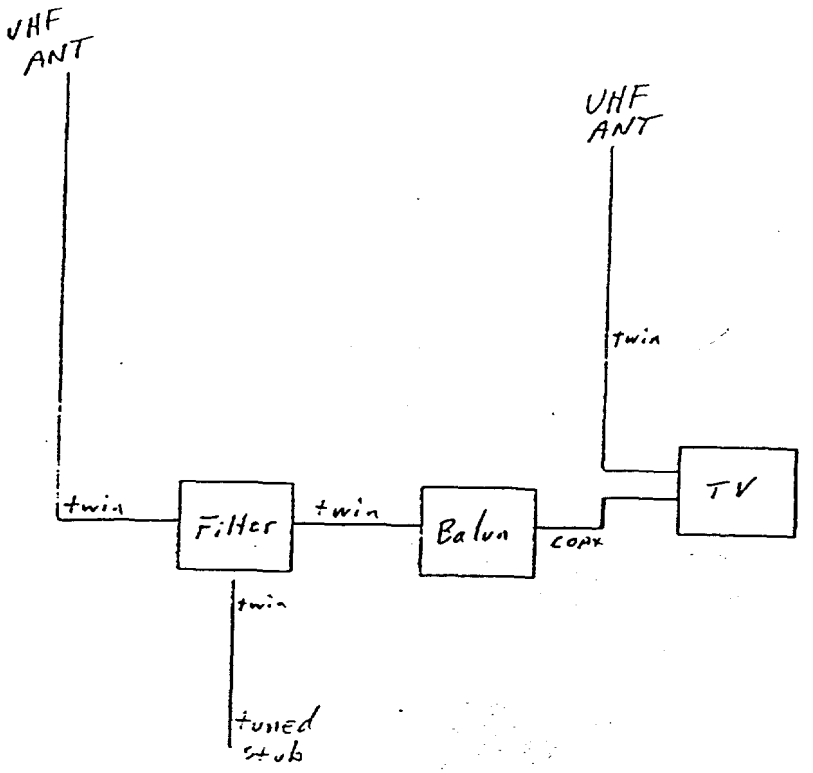
The filter installed on the TV did not have any markings. Occupant was not aware that he had a filter.

****

***** SUMMARY *****

KOKS failed to restore the quality of picture reception at this residence.

The picture quality improved on Ch.6 when KOKS stopped transmissions.


VHF
ANT
UHF
ANT
twin
twin
Filter
twin
Balun
coax
TV
twin
tuned
stub

(8)

INVESTIGATION REPORT

Date: 2/12/92 Time: 10:00am Name: Mr. Tom Crutchfield #155

Has KOKS been here? Y N Address: Rt.6 Box 1068, Poplar Bluff

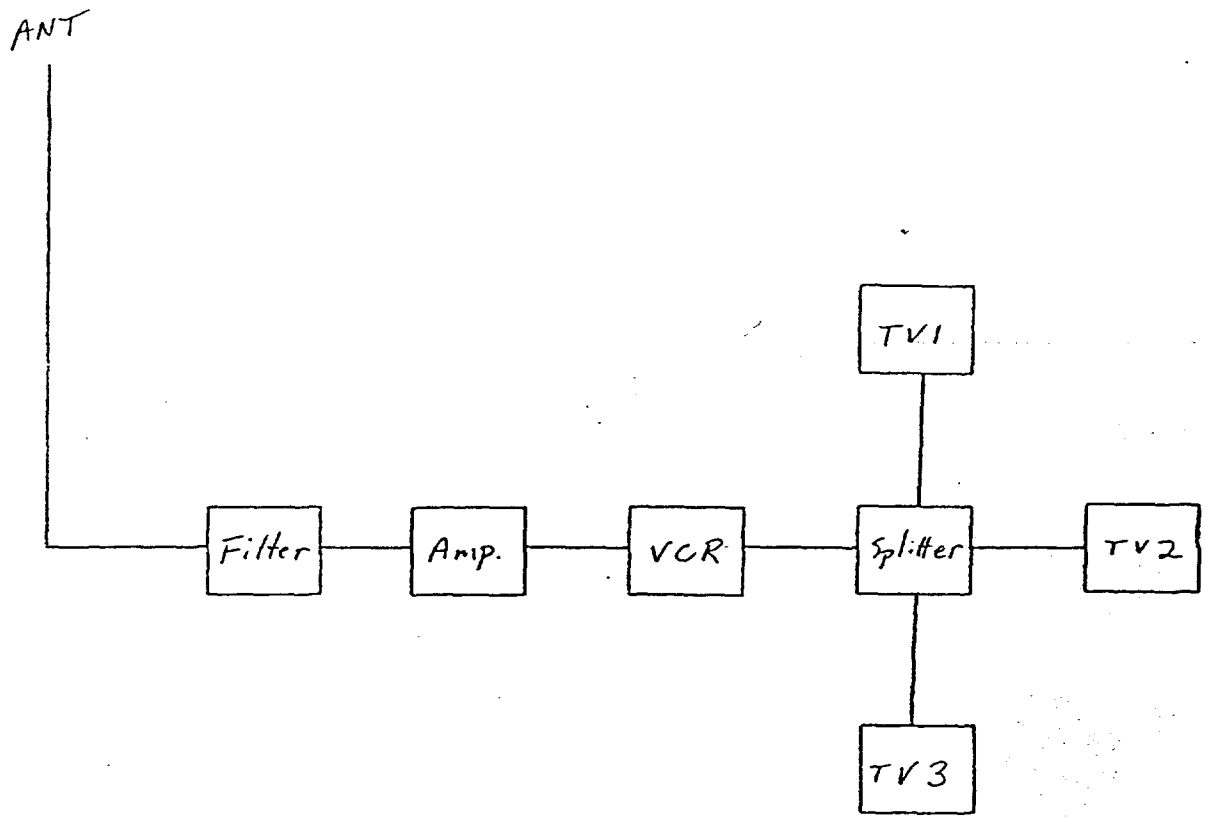
When were they here? 2/91 Description of Services: Installed one notch filter which did not work, so it was taken back off by KOKS personnel, but left at the residence.

		TV1	TV2	TV3	Radio 1	Radio 2
Make		RCA-Dimensia	Mont. Ward	Mitsubishi		
Model		RVM2730	Signat.2000	CS1946R		
Serial #		841630434	04248	U1946156417		
Date First Used		3yrs old	1 1/2 yrs	3-4 yrs		
Ant. Wire Type		coax	coax	coax		
Ant. Type		directional	directional	directional		
Ant. Rotor		none	none	none		
Ant. Bearing		46 deg.	46 deg.	46 deg.		
Filter Type		Archer FM Trap/Booster & Channel Master Notch Filter				
Filter Manuf.		See Above				
Booster Type		Archer with FM Trap				
Pic/Rec Quality w - KOKS	Ch. 6	TASO 4	TASO 4	TASO 4		
	Ch. 8	6	6	6		
	Ch.12	2	3	3		
	Ch.15	3	3	3		
Pic/Rec Quality w/o -KOKS	Ch. 6	3	4	4		
	Ch. 8	6	6	6		
	Ch.12	2	3	3		
	Ch.15	3	3	3		

Notes: Mr. Crutchfield stated that when the IX started, he did not know it was due to KOKS. On his own, he installed new coax, filters, booster amps, etc. As a result of these measures, the picture quality was better at this residence than any of the seventeen residences visited during this investigation. The field strength measured near this residence was 430mv/m. This lower field strength is due to this residence being located in the null of stations antenna pattern. This residence is within one mile of the KOKS tower.

***** SUMMARY *****

Occupant was not aware that KOKS was source of IX problems with his television reception. On his own he purchased and installed a notch filter and booster amplifier. When KOKS did come to the residence they tried one notch filter wh did not improve the picture from that obtained by the resident on his own. The picture quality of Ch. 6 improved on the RCA with KOKS off the air.


ANT
Filter
Amp.
VCR
Splitter
TV1
TV2
TV3

(1)

INVESTIGATION REPORT

ate: 2/10/92 Time: 6:15pm Name: Sandra Durbin #205

as KOKS been here? Y N Address: Rt.6 Box 105, Poplar Bluff, MO

hen were they here? ? Description of Services: Installed one notch

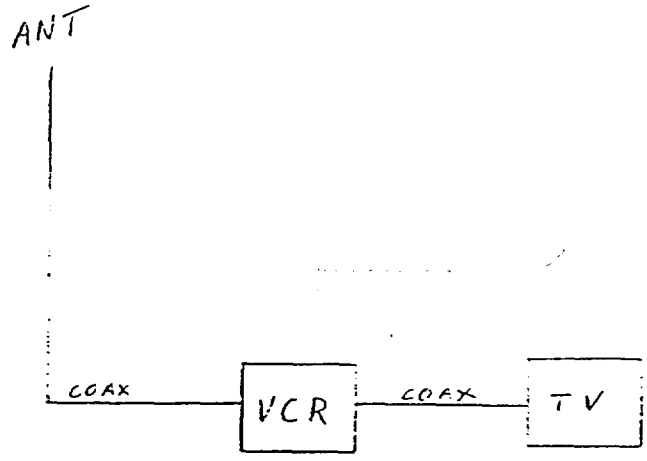
ilter which Ms. Durbin removed after two weeks since it did not resolve IX.

	TV1	TV2	TV3	Radio 1	Radio 2
ake	Midland				
odel	SCJ4297A				
erial #	612030				
ate First Used	9/82				
nt. Wire Type	coax				
nt. Type	directional				
nt. Rotor	none				
nt. Bearing	62 deg.				
ilter Type	none				
ilter Manuf.	N/A				
ooster Type	none				
ic/Rec Quality					
- KOKS Ch. 6	TASO 6				
Ch. 8	6				
Ch.12	4				
Ch.15	4				
ic/Rec Quality					
/o -KOKS Ch. 6	4				
Ch. 8	5-6				
Ch.12	3				
Ch.15	2				

lotes: Antenna had several bent elements. Ms. Durbin stated that she had emoved the filter because her reception was better without it. The field strength at this location was 1,484mv/m.

***** SUMMARY *****

KOKS did not restore the quality of picture reception at this residence. The picture quality did increase when KOKS stopped transmissions. The TV antenna at this residence must be pointed toward the KOKS tower in order to receive Ch.6 and Ch.12 television signals.


ANT
COAX
VCR
COAX
TV

ATTACHMENT D

DISTANCE AND BEARING CALCULATIONS TO DESIRED TELEVISION STATIONS

SUMMARY OF DISTANCE AND BEARING CALCULATIONS

WPSD-TV Paducah, KY - 86 miles on a bearing of 68 degrees from KOKS tower.

KAIT-TV Jonesburo, AR - 69 miles on a bearing of 199 degrees from KOKS tower.

KFVS-TV Cape Girardeau, MO - 68 miles on a bearing of 47 degrees from KOKS.

KPOB-TV Poplar Bluff, MO - .98 miles on a bearing of 221 degrees from KOKS.

Point to Point Distance Calculations

The following theory used in the calculation of distances between two points has been taken from the publication "Air-Line Distances Between Cities in the United States", by C.A. Whitten, 1947, U.S. Government Printing Office:

Step 1. Obtain latitude and longitude coordinates for the two points.

2. Convert latitude and longitude from degrees, minutes, and seconds to decimal equivalents in degrees.

3. Using the converted latitude from Step 2, interpolate the value of R from Table I.

4. Using the converted longitude from Step 2, interpolate the values of sin θ and cos θ from Table II. For longitudes west of 96°, the value of sin θ will be negative.

5. Using the values obtained for R, sin θ, and cos θ, find the values of X and Y using the formulas:

$$X = 3{,}000 + R \sin \theta$$
$$Y = 5{,}904.15 - R \cos \theta$$

6. Find the difference (ΔX) between the X calculated for point A and point B.

7. Find the difference (ΔY) between the Y calculated for point A and point B.

8. Find the value of Z using the equation:

$$\sqrt{(\Delta X)^2 + (\Delta Y)^2} = Z$$

9. Find the difference in degrees of the latitudes of point A and point B.

10. Find the differences in degrees of the longitudes of point A and point B.

11. Using the longitude difference from Step 10, interpolate the value of the correction to mean latitude from Table III.

12. Obtain the mean latitude by adding latitude A and B and dividing by 2.

13. Add the correction obtained in Step 11 to the mean latitude found in Step 12.

14. Using the corrected mean latitude obtained in Step 13, interpolate the scale ratio from Table IV.

15. Using the difference in latitude obtained in Step 9, interpolate the value for the correction to scale ratio from Table V.

16. Subtract the value from Step 15 from the value of Step 14.

17. Multiply together the values for Step 16 and Step 8 (Z). The result is the straight line distance between the two points.

FUNDAMENTAL TABLES

TABLE I.—*Lambert projection radii*

Latitude	*R*	Tab. Diff.
	Miles	
24°	5,904.15	70.57
25	5,833.58	70.31
26	5,763.27	70.05
27	5,693.22	69.82
28	5,623.40	69.61
29	5,553.79	69.42
30	5,484.37	69.25
31	5,415.12	69.10
32	5,346.02	68.97
33	5,277.05	68.86
34	5,208.19	68.76
35	5,139.43	68.69
36	5,070.74	68.65
37	5,002.09	68.61
38	4,933.48	68.60
39	4,864.88	68.61
40	4,796.27	68.65
41	4,727.62	68.69
42	4,658.93	68.77
43	4,590.16	68.86
44	4,521.30	68.99
45	4,452.31	69.12
46	4,383.19	69.30
47	4,313.89	69.48
48	4,244.41	69.70
49	4,174.71	69.94
50	4,104.77	70.21
51	4,034.56	70.51
52	3,964.05	----------

TABLE II.—*Central meridian 96°00′00″ l=0.6305*
X=3,000.00 at 96° longitude

Longitude		Sin θ	Tab. Diff.	Cos θ	Tab. Diff.
96°	96°	0.00000	1100	1.00000	5
95	97	0.01100	1101	0.99995	18
94	98	0.02201	1100	0.99977	31
93	99	0.03301	1099	0.99946	42
92	100	0.04400	1099	0.99904	55
91	101	0.05499	1099	0.99849	66
90	102	0.06598	1097	0.99783	79
89	103	0.07695	1097	0.99704	90
88	104	0.08793	1096	0.99614	103
87	105	0.09888	1094	0.99511	115
86	106	0.10982	1093	0.99396	127
85	107	0.12075	1092	0.99269	139
84	108	0.13167	1090	0.99130	151
83	109	0.14257	1088	0.98979	163
82	110	0.15345	1087	0.98816	174
81	111	0.16432	1084	0.98642	187
80	112	0.17516	1082	0.98455	199
79	113	0.18598	1080	0.98256	211
78	114	0.19678	1078	0.98045	222
77	115	0.20756	1075	0.97823	234
76	116	0.21831	1073	0.97589	246
75	117	0.22904	1070	0.97343	258
74	118	0.23974	1067	0.97085	270
73	119	0.25041	1063	0.96815	282
72	120	0.26104	1061	0.96533	293
71	121	0.27165	1057	0.96240	304
70	122	0.28222	1054	0.95936	317
69	123	0.29276	1051	0.95619	328
68	124	0.30327	1047	0.95291	339
67	125	0.31374	1043	0.94952	351
66	126	0.32417	1039	0.94601	363
65	127	0.33456	1035	0.94238	373
64	128	0.34491	1030	0.93865	386
63	129	0.35521	1027	0.93479	396
62	130	0.36548	----------	0.93083	----------

TABLE III.—*Correction to mean latitude for difference of longitude (positive)*

Diff. of longitude	Corr. to mean latitude
0°	0°.00
5	0. 02
10	0. 07
15	0. 16
20	0. 28
25	0. 44
30	0. 63
35	0. 86
40	1. 12
45	1. 43
50	1. 76
55	2. 13
60	2. 53

TABLE IV.—*Scale ratio for corrected mean latitude*

Latitude	Scale Ratio	Tab. Diff.
24°	0. 9730	+41
25	0. 9771	+38
26	0. 9809	+35
27	0. 9844	+33
28	0. 9877	+31
29	0. 9908	+27
30	0. 9935	+25
31	0. 9960	+22
32	0. 9982	+19
33	1. 0001	+16
34	1. 0017	+14
35	1. 0031	+10
36	1. 0041	+7
37	1. 0048	+4
38	1. 0052	+1
39	1. 0053	−1
40	1. 0052	−5
41	1. 0047	−8
42	1. 0039	−11
43	1. 0028	−14
44	1. 0014	−16
45	0. 9998	−20
46	0. 9978	−24
47	0. 9954	−26
48	0. 9928	−30
49	0. 9898	−33
50	0. 9865	−37
51	0. 9828	−41
52	0. 9787	

TABLE V.—*Correction to scale ratio for difference of latitude (negative)*

Diff. of latitude	Corr. to scale ratio
0°	0. 0000
1	0. 0000
2	0. 0001
3	0. 0001
4	0. 0002
5	0. 0003
6	0. 0005
7	0. 0006
8	0. 0008
9	0. 0010
10	0. 0013
11	0. 0015
12	0. 0018
13	0. 0022
14	0. 0025
15	0. 0029
16	0. 0033
17	0. 0037
18	0. 0041
19	0. 0046
20	0. 0051
21	0. 0056
22	0. 0062
23	0. 0067
24	0. 0073
25	0. 0080

DISTANCE CALCULATION FIGURES AND RESULTS

	WPSD-TV Ch. 6 Paducah Kentucky	KAIT-TV Ch. 8 Jonesburo Arkansas	KFVS-TV Ch. 12 Cape Gir. Missouri	KPOB-TV Ch. 15 Pop.Bluff Missouri	KOKS Pop.Bluff Missouri
Latitude	N37-11-31	N35-53-17	N37-25-46	N36-48-02	N36-48-40
Latitude	N 37.192	N 35.888	N 37.429	N 36.801	N 36.811
Longitude	W088-58-33	W090-56-09	W089-30-14	W090-27-03	W090-27-50
Longitude	W 88.976	W 90.936	W 89.504	W 90.451	W 90.464
R	4988.92	5078.43	4972.66	5015.75	5015.06
sin θ	.07722	.05569	.07142	.06102	.06088
cos θ	.99702	.99845	.99744	.99813	.99814
X	3385.24	3282.82	3355.15	3306.06	3305.32
ΔX	79.92	22.50	49.83	.74	0
Y	930.10	833.59	944.22	897.78	898.42
ΔY	31.68	64.83	45.80	.64	0
Z	85.97	68.62	67.68	.98	0
Dif.in Lat	.381	.923	.618	.010	0
Dif.in Long	1.490	.472	.960	.013	0
Cor. Ta III	.0298	.0094	.0192	.0003	0
Mean Lat.	37.00	36.35	37.12	36.806	0
Cor.Mean La	37.03	36.36	37.14	36.81	0
S. Ra.Ta IV	1.0048	1.0043	1.0049	1.0046	0
Distance(mi)	86.38	68.92	68.01	.98	0
Bearing from KOKS	68 deg.	199 deg.	47 deg.	221 deg.	

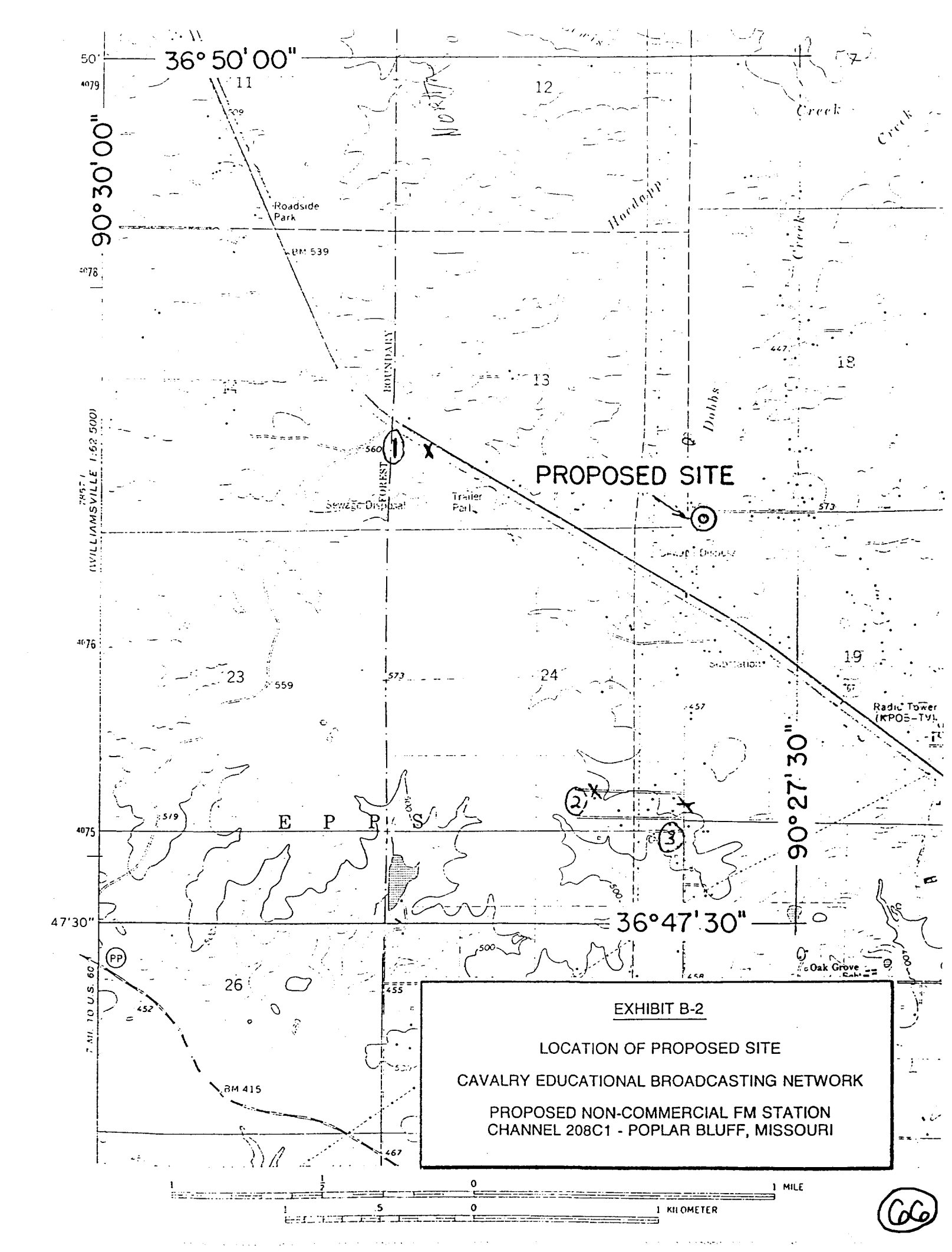
ATTACHMENT E

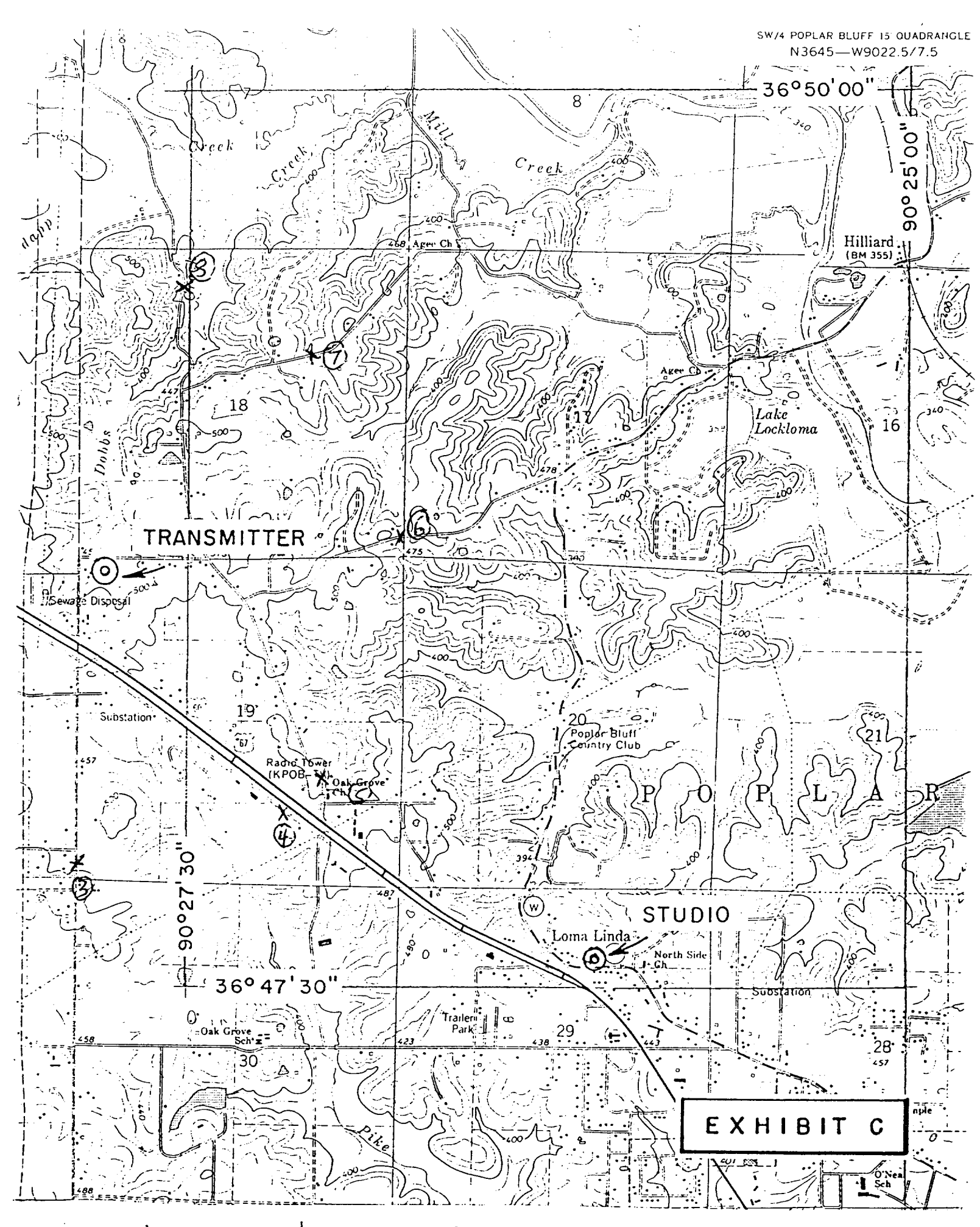
FIELD STRENGTH MEASUREMENTS OF KOKS ANTENNA PATTERN

FIELD STRENGTH MEASUREMENTS
OF KOKS ANTENNA PATTERN

The following point #'s are associated with the corresponding points labeled on the attached maps of the area surrounding the KOKS radio tower.

POINT #	MEASUREMENT
1	505mv/m
2	505mv/m
3	1,075mv/m
4	860mv/m
5	860mv/m
6	75mv/m
7	75mv/m
8	2,150mv/m


36° 50' 00"
90° 30' 00"
36° 47' 30"
90° 27' 30"
PROPOSED SITE
BOUNDARY
Roadside Park
BM 539
Trailer Park
Sewage Disposal
Radio Tower (KPOS-TV)
Oak Grove
BM 415
E P P S
11
12
13
18
19
23
24
26
1
2
3
EXHIBIT B-2
LOCATION OF PROPOSED SITE
CAVALRY EDUCATIONAL BROADCASTING NETWORK
PROPOSED NON-COMMERCIAL FM STATION
CHANNEL 208C1 - POPLAR BUFFF, MISSOURI
1 MILE
1 KILOMETER
66


SW/4 POPLAR BLUFF 15 QUADRANGLE
N3645—W9022.5/7.5
36°50'00"
90°25'00"
Mill Creek
Creek
Hilliard
(BM 355)
Ager Ch
Ager Cem
Lake Lockloma
Dobbs
TRANSMITTER
Sewage Disposal
Substation
Radio Tower
(KPOB-TV)
Oak Grove Ch
Poplar Bluff Country Club
P O P L A R
STUDIO
Loma Linda
North Side Ch
Substation
Trailer Park
Oak Grove Sch
Pike
O'Neal Sch
36°47'30"
90°27'30"
EXHIBIT C
1 MILE
1 KILOMETER
67

BSPP CPCS-1

Location Poplar Bluff, MO Licensee Calvary Ed. B/Casting Network
P.O. Box 967 - Poplar Bluff, MO 63901

Outside Inspection Inspection Date 2/10/92 Office/Inspector KC / RDR

Tower Lights Functioning? ✓ Yes __ No - Specifics See Notes #1
Tower Painting OK? ✓ Yes __ No - Specifics
- Antenna Ground OK? __ Yes __ No - Specifics NA
- Fencing OK? __ Yes __ No - Specifics NA
Facilities appear as Authorized? __ Yes ✓ No __ Unsure - Specifics See Notes #2

Inside - Control & Records Inspection Date 2/10/92 Office/Inspector KC / RDR

On duty Operator? ✓ Yes __ No - Specifics
Adequate Meters/Warnings? ✓ Yes __ No - Specifics
Transmitter Control? ✓ Yes __ No - Specifics
Public File? __ OK ✓ No file 3 Items Missing - Specifics See Notes #3

Authorizations Available? ✓ Yes __ No - Specifics
Operating as Authorized? __ Yes ✓ No - Specifics See Notes

EBS/BSPP (Record BSPP notes on Loan Agreement) Inspection Date 2/10/92 Office/Inspector KC / RDR

Current Checklist? ✓ Yes __ No - Specifics
Current Authenticator? ✓ Yes __ No - Specifics
EBS Monitor - Present? ✓ Yes __ No - Specifics
Functioning? ✓ Yes __ No - Specifics
Tuned to Correct Station? ✓ Yes __ No - Specifics
Tests received per Log? ✓ Yes __ No - Specifics
EBS Generator - Present? ✓ Yes __ No - Specifics
Functioning? ✓ Yes __ No - Specifics
Tests Conducted? ✓ Yes __ No - Specifics
Tests on Log? ✓ Yes __ No - Specifics

Technical Operation Inspection Date 2/10/92 Office/Inspector KC / RDR

Frequency OK? ✓ Yes __ No - Specifics: Authorized 89.5 MHz Measured 89.500 MHz

Modulation OK? ✓ Yes __ No - Specifics
Spurious/Harmonic Emissions OK? ✓ Yes __ No - Specifics (include frequency and dB suppressed)

Power OK? __ Yes ✓ No - Specifics: Authorized 35K watts Operating with 22.5K watts
See Notes 95.1% 11.9Ω 2.3ΩH .5=F

AM DA Parameters OK? __ Yes __ No - Specifics (indclude authorized value, reading, tolerance)
NA

AM Monitoring Points OK? __ Yes __ No - Specifics (include authorized value, reading)
NA

Violations Notices Issued (check any that apply) ____ Advisory ____ 790-II ____ 793 ____ NAL

Inspection Expenses - 64 Hours On Scene 51 Hours Collateral 713.22$ Travel Expended

Complaints - Was station inspected as a result of a complaint or referral? ____ No X Yes
If yes, details of complaint:

Nina Stewart
Don Stewart

INSPECTION NOTES
KOKS - POPLAR BLUFF, MO
2/10/92

#1 Tower Lighting: The stations license indicates that the tower should have a top beacon and side lamps at the 1/3 and 2/3 levels. The tower currently has a top beacon and a beacon at the 1/2 level as well as side lamps at the 1/4 and 3/4 levels.

#2 Facilities as Authorized: The station license is for a 4 bay directional antenna. According to station manager Don Stewart, the station installed a seven bay directional antenna sometime in early October, 1991.

#3 Public File:

A. Issues Programs List: The station did not have any issues programs lists for any quarter.

B. Political File: The station did not have on file requests for time from political candidates. According to Mrs. Nina Stewart, the station has only had a couple local or state requests, but they had been told by their attorney to only include requests from candidates seeking a national office.

C. Donor List: The station did not have any list of donors supporting the stations programming. According to Mrs. Nina Stewart, none of their donors support a specific program. However, on 2/11/92, at 8:25am, I monitored the station playing a commercial which included a statement that Lane Reasons Insurance was supporting a portion of that days programming. I then visited the station on 2/12/92 and asked Mrs. Nina Stewart for their programming logs covering the 8:25a time period of the previous day. According to the log the Lane Reasons Insurance "PROMO" was recorded, so I asked for and received a copy of that commercial and the program log.

#4 Power: The station is licensed for a transmitter output power of 35kW. At the time of inspection the plate voltage was 11.9kV, the plate current was 2.36A, and the efficiency factor from the manufacturers test data is 80 percent. This calculates to an output power of 22.5kW or 64% of authorized. However, the transmitter also has a digital percent of power output reading which indicated that the station was operating at 95.1% of authorized. I then viewed the transmitter logs kept by the station and noted the following:

DATE	TIME	PLATE kV	PLATE CURRENT	OUTPUT %
1/1/91	4:00am	11.8	2.22	84.2
2/4/91	8:00am	11.8	2.19	90.0
9/1/91	8:00am	11.7	2.43	91.0
10/1/91	11:00am	11.8	2.42	95.1
10/1/91	2:30pm	11.8	2.42	94.7
11/1/91	8:50pm	11.8	2.35	95.2
12/1/91	8:00am	11.9	2.40	94.3
12/1/91	2:00pm	11.9	2.40	92.8
1/1/92	8:00am	11.9	2.33	95.4
2/1/92	8:00am	11.9	2.34	94.9

The stations transmitter logs clearly show a large inconsistency between the plate voltage and current readings vs the percent of output power. These problems were not known to the station engineer or the station manager. At the suggestion of KC EIC, James Dailey, we took the stations transmitter/tower light logs for 1/1/91, 2/1/91, and for the period 9/1/91 - 2/10/92. We gave them a receipt for these logs.

I asked to see the stations proof which would show the field strength readings and pattern for the direction antenna so I could then verify the output by field strength readings. The station could not find where they had done a proof. I later came back to the station on 2/13/92 at which time Mrs. Nina Stewart provided loose leaf pages which she stated was the stations proof, however, these documents were for a 4 bay antenna and not the 7 bay antenna currently being used.

#5 Proof of Performance: The station has not conducted a proof of performance on the new 7 bay antenna they have already constructed.

#6 Commercials: As mentioned above, this is a non-commercial station that I monitored airing a commercial.

#7 Blanketing Interference: The station was inspected at the request of the MMB. As part of this inspection, FCC Engineer Mike Gusick and myself visited 15 separate residences over a 4 day period to investigate allegations that the station did not restore TV picture reception in accordance with the FM Blanketing rules. This special investigation has resulted in the amount of hours on scene and hours collateral as shown on the inspection data summary.

Ronald D. Ramage

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Radio Station KOKS
Poplar Bluff, MO